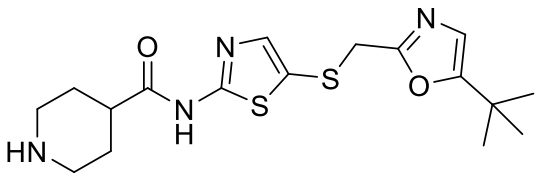
Product data sheet

MedKoo Cat#: 202640 Name: SNS-032 CAS#: 345627-80-7 (free base) Chemical Formula: $C_{17}H_{24}N_4O_2S_2$ Exact Mass: 380.13407 Molecular Weight: 380.53	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
SNS-032, also known as BMS-387032, is a 2-aminothiazole-derived, small-molecule cyclin dependent kinase (CDK) inhibitor with potential antineoplastic activity. CDK inhibitor SNS-032 selectively binds to CDKs 2, 7, and 9, preventing their phosphorylation and activation; inhibition of CDK activity may result in cell cycle arrest, the induction of apoptosis and decreased tumor cell proliferation in susceptible tumor cell populations. This agent has been shown to sensitize radioresistant tumor cells to ionizing radiation.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	42.80	112.47

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.63 mL	13.14 mL	26.28 mL
5 mM	0.53 mL	2.63 mL	5.26 mL
10 mM	0.26 mL	1.31 mL	2.63 mL
50 mM	0.0 mL5	0.26 mL	0.53 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Zeng H, Yang H, Song Y, Fang D, Chen L, Zhao Z, Wang C, Xie S. Transcriptional inhibition by CDK7/9 inhibitor SNS-032 suppresses tumor growth and metastasis in esophageal squamous cell carcinoma. Cell Death Dis. 2021 Nov 5;12(11):1048. doi: 10.1038/s41419-021-04344-w. PMID: 34741018; PMCID: PMC8571299.
2. Meng H, Jin Y, Liu H, You L, Yang C, Yang X, Qian W. SNS-032 inhibits mTORC1/mTORC2 activity in acute myeloid leukemia cells and has synergistic activity with perifosine against Akt. J Hematol Oncol. 2013 Feb 18;6:18. doi: 10.1186/1756-8722-6-18. PMID: 23415012; PMCID: PMC3599109.

In vivo study

1. He XL, Hu YH, Chen JM, Zhang DQ, Yang HL, Zhang LZ, Mu YP, Zhang H, Chen GF, Liu W, Liu P. SNS-032 attenuates liver fibrosis by anti-active hepatic stellate cells via inhibition of cyclin dependent kinase 9. Front Pharmacol. 2022 Oct 12;13:1016552. doi: 10.3389/fphar.2022.1016552. PMID: 36313366; PMCID: PMC9597511.
2. Jiang L, Wen C, Zhou H, Liu A, Zhang H, Chen X, Ding W, Liu J, Shi X. Cyclin-dependent kinase 7/9 inhibitor SNS-032 induces apoptosis in diffuse large B-cell lymphoma cells. Cancer Biol Ther. 2022 Dec 31;23(1):319-327. doi: 10.1080/15384047.2022.2055421. PMID: 35332847; PMCID: PMC8959513.

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7. Bioactivity

Biological target:

SNS-032 is a potent and selective inhibitor of CDK2, CDK7, and CDK9 with IC50s of 38 nM, 62 nM and 4 nM, respectively.

In vitro activity

This study indicates that SNS-032 is a promising therapeutic agent for esophageal squamous cell carcinoma treatment. SNS-032 effectively inhibited cellular viability, abrogated anchorage-independent growth, and potentiated the sensitivity to cisplatin in ESCC cells. SNS-032 induced a mitochondrial-dependent apoptosis of ESCC cells by reducing Mcl-1 transcription and potently abrogated the abilities of ESCC cell migration and invasion through transcriptional downregulation of MMP-1.

Reference: Cell Death Dis. 2021 Nov 5;12(11):1048. https://pubmed.ncbi.nlm.nih.gov/34741018/

In vivo activity

SNS-032 is a potential drug and CDK9 might be a new prospective target for the treatment of liver fibrosis. In a mouse model of liver fibrosis, SNS-032 was found to alleviate hepatic fibrosis by inhibiting the activation and inducing the apoptosis of active hepatic stellate cells.

Reference: Front Pharmacol. 2022 Oct 12;13:1016552. https://pubmed.ncbi.nlm.nih.gov/36313366/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.